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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/509,156
Filing Date: November 01, 2005
Appellant(s): TAKADA ET AL.

Sadao Kinashi
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed October 23rd, 2009 appealing from the Office action mailed May 12, 2009.

I. Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

II. Related Appeals and Interferences

The examiner is not aware of any related appeals, interference, or judicial proceedings, which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. Status of Claims

The statement of the status of claims contained in the brief is correct.

IV. Status of Amendments After Final

The appellant's statement of the status of amendment after final rejection contained in the brief is correct.

V. Summary of Claimed Subject Matter

The appellant's statement of the summary of claimed subject matter contained in the brief is correct.

VI. Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the ground of rejection to be reviewed on appeal contained in the brief is correct.

VII. Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

VIII. Evidence Relied Upon

US 6,589,368 (a patent family member of WO 01/18276 A1)

Takada et al. July 8, 2003

JP 11-286770 A (a machine translation has been attached to the Office action dated February 21st, 2008 in eDAN)

Takada Jun et al. October 19, 1999

VIII. Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 01/18276 A1 in view of JP 11-286770 A.

The WO 01/18276 A1 is in Japanese, therefore, Takada et al. (US 6,589,368), a patent family member of WO 01/18276 A1, has been relied upon to establish the ground(s) of rejections.

With respect to claims 1 and 7, Takada et al. ('368) discloses a worked Mo alloy material subjected to nitriding, which has high strength and high toughness comprising fine nitride particles formed by internally nitriding a nitride-forming metal element incorporated as a solid solution in the worked Mo alloy material and the fine nitride particles being dispersed in a worked structure on an interior recrystallized structure or an interior structure without recrystallization (col. 3, lines 28-46).

Takada et al. ('368) does not disclose that the worked Mo alloy material comprises a Mo nitride layer at the surface of the worked Mo alloy material as claimed. JP ('770 A) discloses a Mo alloy with a Mo nitride layer having a thickness of 0.5 to 10 microns at the surface (abstract) and the Mo nitride at the surface comprising gamma-Mo₂N, beta-Mo₂N and delta-MoN (paragraph [0003], machine translation). The thickness range of the Mo nitride layer of JP ('770 A) overlaps the claimed thickness

range. A prima facie case of obviousness exists. See MPEP 2144.05 I. It would have been obvious to one of ordinary skill in the art at the time the invention was made to form a Mo nitride layer at the surface of the worked Mo alloy material of Takada et al. ('368) as disclosed by JP ('770 A) in order to improve the corrosion resistance and the mechanical strength of the worked Mo alloy material of Takada et al. ('368) as disclosed by JP ('770 A) (abstract and paragraph [0006], machine translation). The yield strength of the worked Mo alloy material with the Mo nitride surface layer of Takada et al. ('368) in view of JP ('770 A) would be inherently higher than that of the worked Mo alloy material without the Mo nitride surface layer of Takada et al. ('368) in view of JP ('770 A).

X. Response to Argument

The appellant's arguments in the Appeal Brief filed on October 23rd, 2009 have been fully considered, but they are not persuasive.

First, the appellant argues that the examiner applies inherency to a combination of prior art improperly; nothing in JP ('770 A) indicates that a Mo nitride layer formed by a nitriding treatment would increase the mechanical strength and hardness of a Mo based alloy; and it was not known to a person of ordinary skill in the art that a thin Mo nitride surface layer would contribute to the yield strength in a practical manner. In response, the examiner notes that claims 1 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 01/18276 A1 in view of JP 11-286770 A. The combination of the prior art references as the ground of rejection is believed to be proper and is maintained. The yield strength of the worked Mo alloy material with the

Mo nitride surface layer of Takada et al. ('368) in view of JP ('770 A) would be expected by one of skill in the art to be higher than that of the worked Mo alloy material without the Mo nitride surface layer because JP ('770 A) discloses that a Mo nitride surface layer formed by a nitriding treatment would increase the mechanical strength and hardness of a Mo-based alloy (abstract and paragraph [0006], machine translation).

Second, the appellant argues that Takada et al. ('368) in view of JP ('770 A) does not disclose the claimed features in the instant claim 1 without specifying the exact feature. In response, see the grounds of rejections of the instant claims 1 and 7 as stated in the Section VIII above.

Third, the appellant argues that the instant invention shows unexpected results compared with Takada et al. ('368) in terms of yield and maximum strengths as shown in Table 1 in the Appeal Brief; it was not expected for a person having ordinary skill in the art that there is correlation between the yield strength of the Mo alloy worked material and the thickness of the thin Mo nitride surface layer formed on the Mo alloy; and the worked material of the instant invention exhibits high corrosion resistance as well as very high strengths. In response, the examiner notes that JP ('770 A) discloses that a Mo nitride surface layer formed by a nitriding treatment on a Mo alloy would have excellent corrosion resistance, mechanical strength and hardness (abstract and paragraph [0006], machine translation) and the thickness range of the Mo nitride layer of JP ('770 A) overlaps the claimed thickness range as stated in the Section VIII above. Appellant's position is stated by way of argument alone and therefore not considered to be of probative value. Evidence of non-obviousness such as criticality of ranges or

unexpected results may be appropriate for a declaration under 37 CFR 1.132. See MPEP section 716.02. Furthermore, Takada et al. ('368) in view of JP ('770 A) meets all the claim limitations in the instant claims 1 and 7 as discussed above. The same corrosion resistance and mechanical strengths would be expected in the product of Takada et al. ('368) in view of JP ('770 A) as in the instantly claimed product.

XI. Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and interferences section of the examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Weiping Zhu/

Weiping Zhu

Patent Examiner, Art Unit 1793

Conferees:

/Roy King/

Supervisory Patent Examiner, Art Unit 1793

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